Amendments to the Claims:

Claims 1-14 (Cancelled)

15. (Currently Amended) A method of inducing in an individual an ~~a therapeutically effective~~ immune response against an antigen

wherein said ~~therapeutically effective~~ immune response includes both a humoral immune response that includes a mucosal immune response and a cellular immune response that includes antigen specific cytotoxic ~~cytoxic~~ T lymphocytes;

the method comprising the step of administering by topical or lavage administration to mucosal tissue of said individual, said mucosal tissue is selected from the group consisting of rectal, vaginal, urethral, sublingual and buccal, a nucleic acid molecule that is free of an infection agent and comprises a nucleotide sequence that encodes said antigen operably linked to regulatory sequences in an amount effective to induce an ~~a therapeutically effective~~ immune response against said antigen wherein ~~which~~ said ~~therapeutically effective~~ immune response ~~which~~ includes both a humoral immune response that includes a mucosal immune response and a cellular immune response.

16. (Previously Presented) The method of claim 15 wherein the antigen is a pathogen antigen.

17. (Previously Presented) The method of claim 15 wherein said nucleic acid molecule is administered vaginally.

18. (Previously Presented) The method of claim 17 wherein the antigen is a pathogen antigen.

19. (Previously Presented) The method of claim 17 wherein said nucleic acid molecule is administered using a suppository.

20. (Previously Presented) The method of claim 15 wherein said acid molecule is administered rectally.

21. (Previously Presented) The method of claim 20 wherein the antigen is a pathogen antigen.

22. (Previously Presented) The method of claim 20 wherein said nucleic acid molecule is administered using a suppository.

23. (Previously Presented) The method of claim 15 wherein said nucleic acid molecule is administered sublingually.

24. (Previously Presented) The method of claim 23 wherein the antigen is a pathogen antigen.

25. (Previously Presented) The method of claim 15 wherein said nucleic acid molecule is administered into buccal tissue.

26. (Previously Presented) The method of claim 25 wherein the antigen is a pathogen antigen.

27-38. (Cancelled)

39. (Newly Presented) The method of claim 15 wherein the immune response is a therapeutically effective immune response and said nucleic acid molecule is administered in an amount effective to induce a therapeutically effective immune response against said antigen.

40. (Newly Presented) The method of claim 39 wherein the antigen is a pathogen antigen.

41. (Newly Presented) The method of claim 40 wherein the pathogen antigen is a viral antigen.

42. (Newly Presented) The method of claim 41 wherein the viral antigen is an antigen from human immunodeficiency virus.

43. (Newly Presented) The method of claim 42 wherein antigen from human immunodeficiency virus comprises an epitope of human immunodeficiency virus protein gp160.

44. (Newly Presented) The method of claim 43 wherein said nucleic acid molecule is administered to said individual in a composition that further comprises bupivacaine.

45. (Newly Presented) The method of claim 15 wherein the immune response is a prophylactically effective immune response and said nucleic acid molecule is administered in an amount effective to induce a prophylactically effective immune response against said antigen.

46. (Newly Presented) The method of claim 45 wherein the antigen is a pathogen antigen.

47. (Newly Presented) The method of claim 46 wherein the pathogen antigen is a viral antigen.

48. (Newly Presented) The method of claim 47 wherein the viral antigen is an antigen from human immunodeficiency virus.

49. (Newly Presented) The method of claim 48 wherein antigen from human immunodeficiency virus comprise an epitope of human immunodeficiency virus protein gp160.

50. (Newly Presented) The method of claim 49 wherein said nucleic acid molecule is administered to said individual in a composition that further comprises bupivacaine.

51. (Newly Presented) The method of claim 16 wherein the pathogen antigen is a viral antigen.

52. (Newly Presented) The method of claim 51 wherein the viral antigen is an antigen from human immunodeficiency virus.

53. (Newly Presented) The method of claim 52 wherein antigen from human immunodeficiency virus comprise an epitope of human immunodeficiency virus protein gp160.

54. (Newly Presented) The method of claim 53 wherein said nucleic acid molecule is administered to said individual in a composition that further comprises bupivacaine.

55. (Newly Presented) The method of claim 18 wherein the pathogen antigen is a viral antigen.

56. (Newly Presented) The method of claim 55 wherein the viral antigen is an antigen from human immunodeficiency virus.

57. (Newly Presented) The method of claim 56 wherein antigen from human immunodeficiency virus comprise an epitope of human immunodeficiency virus protein gp160.

58. (Newly Presented) The method of claim 57 wherein said nucleic acid molecule is administered to said individual in a composition that further comprises bupivacaine.

59. (Newly Presented) The method of claim 19 wherein the antigen is a pathogen antigen.

60. (Newly Presented) The method of claim 59 wherein the pathogen antigen is a viral antigen.

61. (Newly Presented) The method of claim 60 wherein the viral antigen is an antigen from human immunodeficiency virus.

62. (Newly Presented) The method of claim 61 wherein antigen from human immunodeficiency virus comprise an epitope of human immunodeficiency virus protein gp160.

63. (Newly Presented) The method of claim 62 wherein said nucleic acid molecule is administered to said individual in a composition that further comprises bupivacaine.

64. (Newly Presented) The method of claim 21 wherein the pathogen antigen is a viral antigen.

65. (Newly Presented) The method of claim 64 wherein the viral antigen is an antigen from human immunodeficiency virus.

66. (Newly Presented) The method of claim 65 wherein antigen from human immunodeficiency virus comprise an epitope of human immunodeficiency virus protein gp160.

67. (Newly Presented) The method of claim 66 wherein said nucleic acid molecule is administered to said individual in a composition that further comprises bupivacaine.

68. (Newly Presented) The method of claim 22 wherein the antigen is a pathogen antigen.

69. (Newly Presented) The method of claim 68 wherein the pathogen antigen is a viral antigen.

70. (Newly Presented) The method of claim 69 wherein the viral antigen is an antigen from human immunodeficiency virus.

71. (Newly Presented) The method of claim 70 wherein antigen from human immunodeficiency virus comprise an epitope of human immunodeficiency virus protein gp160.

72. (Newly Presented) The method of claim 71 wherein said nucleic acid molecule is administered to said individual in a composition that further comprises bupivacaine.

73. (Newly Presented) The method of claim 24 wherein the pathogen antigen is a viral antigen.

74. (Newly Presented) The method of claim 73 wherein the viral antigen is an antigen from human immunodeficiency virus.

75. (Newly Presented) The method of claim 74 wherein antigen from human immunodeficiency virus comprise an epitope of human immunodeficiency virus protein gp160.

76. (Newly Presented) The method of claim 75 wherein said nucleic acid molecule is administered to said individual in a composition that further comprises bupivacaine.

77. (Newly Presented) The method of claim 26 wherein the pathogen antigen is a viral antigen.

78. (Newly Presented) The method of claim 77 wherein the viral antigen is an antigen from human immunodeficiency virus.

79. (Newly Presented) The method of claim 78 wherein antigen from human immunodeficiency virus comprise an epitope of human immunodeficiency virus protein gp160.

80. (Newly Presented) The method of claim 79 wherein said nucleic acid molecule is administered to said individual in a composition that further comprises bupivacaine.